REMARKS

This Response is filed in reply to the Office Action mailed November 16, 2009. Claims 25, 26 and 28-51 are pending in the application. Claims 32-48 are withdrawn from consideration. Claim 25 is the sole independent claim. Claims 25, 26, 28-31 and 49-51 stand rejected under 35 U.S.C. §103(a). Applicants respectfully traverse this rejection. The Commissioner is hereby authorized to charge deposit account 02-1818 for any fees which are due and owing.

In the Office Action, the Patent Office rejects claims 25, 26, 28-31 and 49-51 under §103(a) as unpatentable over U.S. Patent Application Publication No. 2004/0043294 (hereinafter "Fukui") as a single reference. The sole independent claim 25 recites an anode comprised of a particulate anode active material, a conductive agent, and a particulate binder containing at least one compound selected from vinylidene fluoride or polyvinylidene fluoride. The binder is fused by heating and the anode material and conductive agent are prevented from being covered with binder. Applicants asserted in the previously filed Response to non-Final Office Action filed on July 1, 2009 that Fukui does not meet each and every aspect of the claimed invention. That response is herein incorporated by reference. Applicants provide the following further arguments for why the Patent Office's assertions are incorrect and respond to other points made in the instant Final Office Action.

First, the Patent Office's assertions are incorrect because Fukui does not teach or suggest a particulate binder in the anode. One of ordinary skill in the art would recognize that a particulate binder is a binder in particle form. This is in contrast to a binder that is dissolved in a solvent and mixed with a active material – that binder lost its particulate form when it was dissolved into solution. Fukui dissolves the PVDF binder into a solution. See Fukui [0053] (NMP solution containing PVDF.) Applicants have also noted that PVDF is well-dissolved in NMP and has a swelling degree of approximately infinite. Applicants' [0077]. In contrast, Applicants have emphasized that the particulate binder is present because it is not dissolved. See Applicants' Specification [0041]. Therefore the claim limitation of a particulate binder is not satisfied by Fukui because Fukui dissolves the binder in NMP. For this reason alone, the rejection is improper and should be withdrawn.

Second, the Patent Office is incorrect when it asserted in the Response to Arguments that Applicants' previous argument that "the particulate binder ... dispersed" is not in independent claim 25 and therefore the previous argument carry no weight. Applicants note in response that "particulate" and "dispersed" are necessarily tied to one another, as discussed in the previous paragraph. Furthermore, dependent claim 30 contains the dispersed language that the Patent Office asserts is not present. However, the Patent Office has rejected claim 30 without additional argument. Applicants respectfully request reconsideration of that claim.

Third, Fukui does not provide the claimed invention because Applicants have demonstrated that Fukui does not work. In Comparative Example 1-1, a battery was fabricated in the same manner as Examples 1-1 and 1-2, except that the dispersion medium was NMP. Applicants' Specification [0077]. The binder and solvent are exactly the same as in Fukui. Compare Applicants' Specification [0077] with Fukui [0053]. The results shown in Table 1 of the instant specification demonstrate that discharge capacity, charge/discharge efficiency, and cycle retention ratios are all lower for Comparative Example 1-1 when the binder is dissolved and results in the coating of the anode active material and conductive agent. As such, Fukui cannot provide the particulate binder that is claimed in the instant application.

Finally, in the Patent Office's most recent comments, it seems to suggest that particle diameter and swelling degree can be determined through routine experimentation. This argument appears to rely on the results-effective argument found in MPEP 2144.05. Applicants respectfully assert that this is an improper argument. In order for a prior art reference to satisfy this rule, the results-effective variable must be recognized in the prior art reference. See MPEP 2144.05(II)(B). Fukui does not discuss particle size nor does it discuss swelling degree. It fails to recognize that those values have any relevance to the anodes it constructs. For that reason, the Patent Office cannot rely on Fukui for these additional limitations.

For the reasons set forth above and in the previous Response, Applicants assert that Fukui does not teach or make obvious each and every aspect of the claimed invention, and therefore that the rejection is improper. Applicants respectfully request that the rejection be withdrawn and that the application be moved into allowance.

Respectfully submitted,

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